

AMENDED CLAIMS

[received by the International Bureau on 21 June 2005 (21.06.05);
original claims 1 to 9 replaced by new claims 1 to 9]

CLAIMS

1. A filter for internal combustion engine liquids, comprising a casing (2) containing a toroidal filter cartridge (3) which separates the casing cavity into two chambers (21, 22) for passage of the liquid to be filtered and
5 passage of the filtered liquid respectively; a removable cover (4) closing said cavity and comprising the inlet and outlet conduits for the liquid; the region of the cover facing the casing being connected to the facing end of the cartridge by a snap connection system comprising two complementary parts (10, 111) which are associated with the cover and with the cartridge
10 respectively, and can be connected together by axially sliding said cartridge and released from each other by rotating this latter through a predetermined angle, characterised in that that part of the system associated with the cartridge is located within the central compartment of this latter, and that part of the system associated with the cover is
15 dimensioned and shaped to be able to be inserted into the preceding and coupled thereto, where it retains the facing end of the cartridge in the immediate vicinity of the cover.
2. A filter as claimed in claim 1, characterised in that that system part installed on the cartridge consists of an annular body, a part of which is
20 inserted into said central compartment, where it provides the engagement seat and the disengagement means for that system part installed on the cover.
3. A filter as claimed in claim 2, characterised in that said engagement seat comprises a circumferential series of equidistant recesses which are
25 provided along the free edge of said annular body part inserted into said central compartment.

4. A filter as claimed in claim 2, characterised in that said disengagement means comprise, for each of said recesses, a depressed curved transverse surface provided on the inner cylindrical surface of the annular body and having its centre of curvature outside the longitudinal axis thereof so as to present a depth which, starting from a side of the
5 respective recess, decreases until it becomes zero before reaching the next recess.
5. A filter as claimed in claim 4, characterised in that beyond the zero-depth end of said depressed curved surface and spaced from it, the
10 annular body presents an internal abutment which defines said predetermined angle for releasing the cartridge.
6. A filter as claimed in claim 1, characterised in that that system part installed on the cover comprises a projecting sleeve which is intended to be inserted practically as an exact fit into said annular body, and from the
15 free end of which there branch a number of longitudinal tangs equal to the number of recesses of said annular body, each tang being provided with an outer terminal tooth to engage the bottom edge of the respective recess.
7. A filter as claimed in claim 1, characterised in that a sealing
20 engagement device is interposed between said complementary constituent parts of said snap connection system.
8. A filter as claimed in claim 7, characterised in that said sealing engagement device comprises an annular gasket located in an outer circumferential groove provided on a part of the annular body which
25 extends beyond the cartridge, and faces an enclosing skirt carried by the cover.

9. A filter as claimed in claim 8, characterised in that said skirt is dimensioned to act as a limit stop during the engagement of the snap connection system.